# The Chronicle of the EARLY AMERICAN INDUSTRIES ASSOCIATION

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## *First Porcelain Making in America*

By G. A. R. Goyle

(Author's Note: This is an original piece of research and it took me a number of years to get it pieced together. Our previous knowledge placed the first American attempt at porcelain making at the end of the 18th century in Philadelphia, and my inquiry marks therefore a new date in the industrial history of our country and rescues from oblivion a worthy and enterprising pioneer. The copious quotations throughout this paper, where not otherwise indicated, are from the Georgia archives.)

The founding of the colony of Georgia in 1733, by General James E. Oglethorpe (1696-1788 A.D.), was an utopian and unpracticable venture. A board of trustees in London encouraged emigrants to settle in Georgia, transported them thither, gave them grants of land with definite limitations, and helped them with stores until they should be well settled and able to support themselves. A dependency to the trustees was thereby established, which could not have been to the liking of the settlers. The holding of slaves was not to be allowed, nor was there "Rum" to be produced in the colony. The growing unrest of the settlers found exponents among their more enlightened members, who felt most keenly that the advantages of settling in Georgia had been greatly exaggerated, that the climate was unhealthy, and that they could not compete with the neighboring colonies where the work was done by slaves, better able to withstand the severity of the semi-tropical climate. Nor was the lack of alcoholic beverages of small import. Oglethorpe himself was forced to the utterance, in 1738, that "we want Beer here extreamly," and, in 1741, he reported to the trustees that "the experience of all inhabitants of America, will prove the necessity of qualifying water with some spirits, and it is very certain, that no province in America yields water that such a qualification is more necessary to than Carolina and Georgia."

Colonel William Stephens, the secretary for the trustees, was stationed in Savannah, and left us a highly interesting Journal, covering the period from 1737 to 1743. In it we find copious reference to Andrew Duché, the potter, and his venture of making porcelain. Had it not been that the spirited Andrew Duché, who could not deny his Huguenot descent, was championing the cause of the dissatisfied settlers, he might have had the wholehearted support of the "powers that be" and been able to start a porcelain industry in Georgia, at a time when in Europe it was just budding into prominence.

The connection of Andrew Duché with the prominent Philadelphia family of that name is well established by the diaries of the Salzburger emigrants who settled at Ebenezer, about 45 miles inland from Savannah, Georgia. (Urlsberger, Ausfuehrliehe Nachrichten von den Saltzburgischen Emigranten, die sich in Amerika niedergelassen haben, Halle, 1743, Vol. IX,

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### *Our Purpose*

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men and other workers.

### *Dues*

The annual dues are one dollar, payable September first, for the year immediately ensuing. *The Chronicle* for the current year is sent to all members without additional charge. Back numbers (except No. 1) may be secured from the Treasurer for 20c each. For further information, address any of the officers. See page 5.

## *Camphene or Fluid Burners*

By Edward A. Rushford

Though absolute proof is still lacking, there seems to be but little doubt that Isaiah Jennings, of New York City, was the inventor of both camphene and burning fluid. His patent granted March 3rd, 1829, under the title of "Improvement in the lamp and ingredients for burning therein," appears to be the patent for camphene. Another patent issued October 16th, 1830, is listed as "Producing light by a combination of liquids and its application to lamps with and without wicks" is for what is now known as burning fluid. The mention of lamps without wicks is the earliest notation of a class of lamps later to be known as "vapor lamps," and employing burning fluid for fuel.

Camphene was distilled turpentine; burning fluid was made by mixing camphene with as much alcohol as it would take up. Many similar products appeared on the market, under such names as Chemical, Ethereal or Pine oil, Spirit gas or Spirit, and Phosgen, but perhaps the most famous of these was the one patented by H. Porter, of Bangor, Maine, in 1835, and generally sold under the name of "Porter's Patent Composition Burning Fluid." As turpentine was the basis of all these various products, they may be grouped today under the heading of Turpentine Burning Fluids. All of these fuels were extremely dangerous, as they were so volatile that gas was always present in the reservoir of a lamp above the fluid. When the flame communicated with this gas, an explosion resulted, and, in the newspapers of the period, may be found many reports of such accidents, some causing serious property damage, and others resulting in personal injuries and even deaths. As late as 1853, in the Old Farmer's Almanac for that year, may be found a paragraph devoted to burning fluid, which,

after saying many unpleasant things about this fuel, terminates with the warning: "Have nothing to do with this *liquid gunpowder.*"

The use of these fluids with the solid or whale oil burner was extremely dangerous, due to the large tube, set low in the reservoir, containing a loosely packed wick, and with a pick slot which frequently extended below the burner plate and into the reservoir. The result was the invention of an entirely new type of burner, generally called the "camphene burner," though the term "fluid burner" is much more appropriate. This new burner came into use shortly after the introduction of the turpentine fuels, though the exact date and the name of its inventor is still undetermined.

It is a surprising fact that many dealers and not a few collectors do not appear to be sure of the difference between the whale oil burner and the fluid burner. A few minutes study of a group of burners will serve to fix the difference permanently in one's mind. As they set in their lamps, the tubes of the whale oil burner appear to be much shorter than those of the fluid burner. In reality, there is very little difference in the length, but the whale oil tubes are set with only a third, or less, of their length projecting above the burner plate, while practically the entire length of the fluid tube is above the plate. Closer examination will show that the whale oil tubes are generally made of tin, and fluid tubes of brass, that the whale oil tubes are much larger than the fluid tubes, and have slots cut in their sides for picking up the wicks, which is never to be found in a tube for burning fluid. Both tubes taper,—a feature more noticeable in the fluid tube, because of the greater length above the plate.

The plates of the two types of burners are quite different. Plates for whale oil tubes are made with a narrow rim about the circumference, the greater part of the plate being sharply depressed below the level of this rim. Plates for fluid tubes are flat or slightly convex. Fluid burners with depressed plates were intended to be used with tin lamps, and these burners are generally quite small, and, in some instances, are found fitted with tin tubes. The average fluid burner plate for glass lamps is larger than the whale oil plate, and the ventilation opening, always found in the latter, is never present in the former, for obvious reasons.

Whale oil burners for glass lamps were rarely, if ever, made with more than two tubes, and the tubes are placed close together and parallel. Fluid burners, on the other hand, were made with one, two, three, four and even six tubes, and all the variations were intended to serve in the reservoirs of glass lamps. The tubes of the multiple fluid burners were always soldered in the plates, in such a way that they would slant away from each other, it being considered that the greater the distance between the flames, the less was the danger.

Camphene or Fluid Burners

Fluid burners for glass lamps were always provided with extinguishers, small metal caps of brass or pewter, resembling elongated thimbles. There was an extinguisher for each tube, and they were attached to the burners by means of fine brass chains, one end looped through an opening in the extinguisher, and the other through an opening at the edge of the burner plate. If the extinguisher is missing, this opening naturally remains to show where it was originally attached. Only in rare instances are whale oil burners found which are provided with these accessories, and the only fluid burners without this provision were made for tin lamps and are not common. The extinguisher had three purposes. It made the dangerous practice of "blowing out the lamp" unnecessary, its use minimized the very disagreeable odor which resulted when the flame was extinguished, and it prevented the loss of fuel by evaporation, when the lamp was not in use.

## *Tool Treasures*

By Rev. C. F. Luther

I might have said "Two Treasures," or better, "Two Tool Treasures," for that is exactly what I have in mind.

The old poem, which I remember so well from my childhood, of the father and mother going the rounds of the cots on which their children were sleeping, and vainly trying to decide which one they would part with, presented a real dilemma and, withal, ended as all good poems should, in revealing an impartial love for each and all.

When the human relationship is eliminated and only cold steel and wood enter into consideration, one may be permitted a choice as to his preferences. So it is that I have two tool treasures which I prize above any others that I possess.

Now everyone knows that there is no great intrinsic worth in any of these survivals of a departed handicraft. They serve no useful purpose in the present. In that and other respects, one is as worthy as another.

But apart from considerations of worth or beauty, my affection is set upon the old bit-stock I possess from the early 18th century, and the great shingle shave from about the same period. You know the old name for bit-stock was *wimble*, which comes into Scotch dialect as *wimmle*. I never heard anyone use the word in speech, but that, at any rate, was what the tool was called.

My old wimble, or bit-stock, is both signed and dated, and these features of course add worth to the instrument. It is not signed with the maker's name, but the owner's, and that owner was Jonathan Ashley, second pastor of the church in Deerfield, succeeding Rev. John Williams, whose tragic story is told in that charming autobiography, *The Redeemed Captive*. That is a tale by itself, well known here in our Connecticut valley.

Jonathan Ashley came to the pastorate in 1732, and the manse in which he lived—still standing, but, alas, used as a tobacco barn—was built in 1734. It was from this two-century-old house that Jonathan Ashley, seventh in line of descent and another Amherst man of a class somewhat later than my own, gave me the old bit-stock.

It is hand-wrought in every particular of course, of maple, worn to a delicate smoothness by many turnings through the centuries, and has an ad-

(*Continued on page 7, column 3*)

## Porcelain Making

(*Continued from page 1, column 2*)

pp. 1089, 1140, and 1148). The pertinent passage in translation reads as follows: "A man from Savannah, a potter by trade, has so far produced earthen ware for the country and surroundings. He found out the secret to make as good porcelain as is made in China. He was born in Pennsylvania, where his father, brothers and sisters still remain, prefers however the climate of our colony, that he does not wish for home."

The Duché family of Pennsylvania trace their descent to Jacques Duché, a Huguenot who fled, in 1682, from La Rochelle to London, with his wife Mary and eight children. One of his sons, Anthony, emigrated to Philadelphia around 1700, and became the founder of the American branch. He died, in 1762, at a very advanced age. His will was proved in Philadelphia on June 1st, 1762, and he is called therein "Anthony Duché, Sen'r of Philadelphia, Potter." He left three sons and two daughters. Anthony, Jr., the oldest, died in 1772, and was, in 1734, a schoolmaster on Front Street, Philadelphia, as we learn from an advertisement in the *American Weekly Mercury*. The second son, Jacob Duché, born in Philadelphia, in 1708, died in Lambeth, England, in 1788. He was the father of the Rev. Jacob Duché, an eminent Episcopal divine, who, as Rector of Christ Church, had the distinction of opening the first Continental Congress with prayer. His later adherence to the English cause led him into trouble, and he was declared a traitor by Congress. A kindly critic said of him: "A cloud was cast over his life through an error of judgement." Andrew, the youngest son of the immigrant, died in Philadelphia, in 1778. His will is dated August 18, 1778, and proved, September 19, 1778, and he is styled therein "Gentleman, advanced in years."

It appears that Andrew Duché, born in Philadelphia, in 1709, or a year or two after, having presumably learned the potter's trade from his father, was married at Christ Church, Philadelphia, to Mary Mason, on December 12th, 1731, and went to Georgia, where he established himself, at Savannah, as a potter. A lot was granted him in Savannah, probably before 1737, and another one, adjoining his former acquisition, in 1740, and he had two indentured servants "whom he breeds to the Potter's Trade" as the records tell. Every circumstance was favorable to his success in the newly established colony. He supplied the local demand for pottery, and exported his ware to the neighboring provinces. He was friendly with General Oglethorpe, and was appointed a constable in Savannah. After his business of making pottery — to which he paid every attention — was well established, he proposed "a great improvement in the manufacture of a superfine sort, of such as shall not be inferior to Porcelaine itself." The first informative detail of his endeavors we find in General Oglethorpe's letter of October 19th, 1738, to the Trustees in London, wherein he reports: "An earth is found which Duché the potter has baked into China ware." Colonel William Stephens, the local secretary, had already reported the fact to the trustees, earlier in 1738, with his recommendation that Andrew Duché be encouraged in his enterprise. The Earl of Egmont, the most active of the trustees, took a great interest in the new venture, and, on the 4th of August, 1738, sent samples of Chinese porcelain over to Georgia, which should serve as models and patterns, and commanded Colonel Stephens "to put Andrew Duché upon the trial of making some earthen vessels of a fine kind." Andrew Duché, an offspring of Pennsylvania, which owed its success, as a colonial enterprise, to the most liberal measures of Penn, was quite resolved that his discovery should receive all possible financial aid from the trustees for further development, but should, at the same time, not pass out of his hands to benefit solely the trustees, and advance the reputation of the Colony, with him out of sight, in the background. He evaded, therefore, Colonel Stephen's request made on December 29th, 1738, to send any of the clay to the trust "alledging that it was a peculiar Nostrum of his own, which he rather would hope for a Patent to appropriate to himself, than divulge," and produced a paper in which he set forth "many things requisite to enable him to carry on such a piece of work and a request of another advancement of money."

Colonel Stephens saw fit to let the trustees decide on the matter, and sent Duché's proposals on to London. The reaction was not unfavorable, and the Earl of Egmont wrote concerning it in his Journal, under date of June 27th, 1739, as follows: "Read the proposals of Andrew Duché, Potter at Savannah. Resolved that a sum not exceeding twelve pounds be laid out in the purchase of a pestle and mortar, lead, smalt and block tin, and that Andrew Duché be instructed to send over a specimen of all the Porcelain he makes: but the Trustees can say nothing to the other part of his proposal about procuring him a patent till they saw proof of his work."

Before proceeding with our narrative, we must give an account of the growing estrangement between Colonel Stephens and Andrew Duché. We have already mentioned that the latter had espoused the cause of the dissatisfied colonists who were discontented and unhappy. An interesting sidelight is thrown on the general restiveness of the settlers by the fact that, in August, 1740, while the men stuck to their guns, the wives of John Pye, Andrew Duché and one Penrose went away on a boat, bound for New York. It was only the severe winter of 1740-41 following which made "the run-away wifes wish themselves back again in Savannah," and by January 27th, 1741, the Earl of Egmont recorded in his journal: "Three fugitives to New York return't to Savannah and will be followed by more." In 1740, Colonel Stephens drew up an Account of the State of the Colony, and wanted the settlers to sign it, before sending it to the trustees. He was careful to impartially include a reference to Duché's enterprise in the following words: "A Pottery Work is carried on with Success, where common Ware for most Uses is made in good Plenty, and exported to the neighboring Provinces; and the Master who is of an enterprizing Genius, has undertaken, as soon as he has made proper Furnaces, to make a superfine Sort, of such as shall not be inferior to Porcelaine itself; but a little Time will discover his further Performances." Andrew Duché, the spokesman of the "Cabal," as Stephens characterized the malcontents, was a man of vision and had the advantage of comparing the tottering colonial enterprise of Georgia with his native Pennsylvania, the most successful colony of America. We must give him credit, that he put personal considerations aside, in espousing the cause of the settlers and their dreary lot. He characterized Stephens' Account as containing "more oil than corn," and was fully convinced that "the Colony would come to nought through want of being truly represented." He prepared a counter representation of the state of the province, and had it signed by an overwhelming majority, while

Stephens succeeded only in getting signatures for his, from people who, through their connection with the governing of the province, could not do otherwise. Stephens, in his journal, had not much more to say about Duché's report than that "the chief aim seemed to be setting forth the miserable Condition the Colony was in, which was attempted in most sorrowful Terms, without Reason, Orthography, or Grammar," and on January 6th, 1741, when he met Duché again, told him "it would be his wisest way to mind his own Affairs of making Pots, rather than kick against those from whom he had received such great Encouragement." Duché then grew warm, and resigned his job of Constable. From that time on, he nourished the idea of proceeding to London and acquainting the trustees in person with the true state of affairs in the colony, as he could not hope that Colonel Stephens would forward his counter representation to the trustees. In the meanwhile, by May, 1741, the trials of making porcelain had advanced to such perfection that it was talked about town, and Colonel Stephens complained, in his Journal, that "it was such a secret that he did not allow any to see it, except some few confidants, whom for a while past he wholly consorted with and assisted in carrying on sundry political Schemes: These began now to publish his praise and great abilities, which I heartily wish may appear more valuable in his manual operations, than they have yet been seen in forming Colonies after a Model of his own weak Imagination."

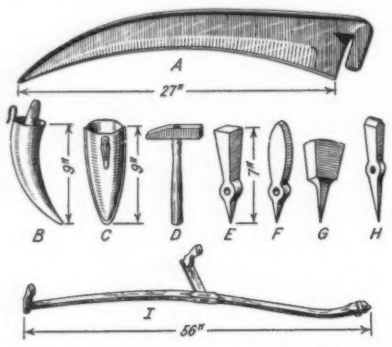
(*To be continued in next issue*)

An early 19th century work on husbandry contains the following remarkable statement: "The usual method of conveying calves to distant markets, is, standing in the bed of a cart or waggon; but a different method is pursued in Northamptonshire, from which they are sent into Essex, being 70 or 80 miles, in the following extraordinary manner — Sometimes 10, 15, or 20, are put into a cart, being laid on their backs on straw, and their feet tied: and are maintained frequently for 8 or 10 days together, on nothing but wheat-flour and gin mixed together, which are called gin-balls."

"Aftermath" was originally the name given to the second growth on a hayfield which had been mowed.

## *The Pennsylvania Scythe*

No collector or student of agricultural tools can have failed to be deeply interested in the mowing outfit of the early Pennsylvania-German farmer. It included a scythe blade (*dengel sense*) hand-forged from extremely malleable iron, unusually broad and thin, with the back edge turned over to form a stiffening "rib" (Fig. A). This was "hung" on a snath, of which one handhold was mortised and pegged at about its middle to the extreme end of the snath, so that the effect was that of a cross-handle, the other handhold being mortised and pegged into the end of a piece some six inches long, projecting from the snath proper, and in turn mortised to it (Fig. I). Occasionally, the natural growth of the wood was utilized to form one or both of these handholds. The mower also had a small hand-forged "anvil", (*dengel shtock*) usually about seven inches long and weighing about a pound (although they are known up to ten inches and four pounds), of which one end was brought to a sharp point, and the other end either had a flat face about an inch and a quarter square (Fig. E), or was shaped like a wedge, with a face only about three-sixteenths of an inch wide (Fig. F), and with a hole in the middle, presumably to hang it up by, when not in use. He also had a small hand-forged hammer (*dengel hammer*), with a flat face at one end of the head, and a wedge-shaped peen at the other (Fig. D). When the scythe required a thorough sharpening, he drove the point of the anvil into a log or stump, and drew the blade across its face, beating out the cutting edge with his hammer. For occasional whetting, he carried a piece of fine-grained sandstone in a sheath (*wetz hahn*) which was hooked to his belt. This sheath was occasionally a hollowed-out piece of wood, but much more frequently a cow's horn, with a hand-wrought hook rivetted to it. (Fig. B). Many of these bear crude decorations, or the initials of the owner, and occasionally a date, which is usually of the early 19th century. According to Dr. Henry C. Mercer (*Tools of the Nation Maker*, No. 25, 31) the sheath was filled with vinegar to keep the whetstone free from grease.




Pennsylvania Scythe and Accessories

Dr. Mercer also states that the general use of these remarkable tools was discontinued in Pennsylvania about 1840, but we have recently discovered that, in modern form, the scythes, as well as sickles of similar type, are still imported from Germany and are apparently very popular in widely scattered sections of this country. Mr. S. E. Gage, while driving through New Milford, Conn., recently, noticed a man coming out of the post-office, carrying one of these curiously made snaths, bright with new varnish, and ascertained from him that he had purchased it from the Marugg Company, of Tracy City, Tenn. We learn from the illustrated catalogue of this concern that the blade which they sell is almost identical with the early type, although made from "German malleable *steel*." The snath is of "Tennessee hickory," and differs from the old style in no essential particular, except that the handholds are secured with wire brads, instead of pegs. They also offer a steel hammer head, of which both ends are wedge-shaped, as well as one which has one flat face, but the purchaser is expected to provide his own handle,—"the end of a broomstick will answer." The steel anvils are of slightly different shape from any early ones that we have seen (Figs. G and H), but the principle is obviously the same. It is recommended that the wedge-shaped anvil be used with the flat face of the hammer, in which case "the blade is turned bottom side up and hammered from the bottom," and that the flat anvil be used with the peen of the hammer, in which case "the blade is laid flat side down on the anvil and the edge is hammered from the upper side." It is claimed that this beating of the blade "produces a wide, keen, somewhat hollow, jagged, cutting edge, at the same time hardening it * * * To prevent heating of the metal, it is well to dip the hammer in water occasionally." The whetstones are imported, and the sheaths are of galvanized iron (Fig. C). It is said that the stone "should be kept immersed in water, while in use, to keep the pores open and sharp." There is no mention of vinegar.

# Early American Industries Association


**Early American Industries Association**

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*This issue was printed by Leon S. Case Flushing, N. Y.*

W. B. Sprague, *Editor.*


## An Appeal

At the annual meeting on September 1st, it was pointed out that, with the annual dues at $1.00, we would start the year with funds about sufficient for only three issues of The Chronicle. While it appeared probable that additional issues might be financed by dues from new members, it was felt that the majority of the members would like to count on receiving the magazine at least every other month, and monthly if possible, and, since the sentiment against raising the dues was practically unanimous, the officers were directed to appeal to the members through The Chronicle for voluntary contributions to the cost of publication. If these contributions *average* $1.00, we can be sure of *at least* six numbers during the year, but it is perhaps too much to expect that every member will respond, so that we earnestly urge those who are especially interested to send as much more as possible, to compensate for those who do not feel that they can give anything. All or any part of any such contribution can be applied in payment of dues for any individual, historical society, library, etc. whom you may wish to propose for membership, and your adopting this course may be of distinct benefit to this association, inasmuch as a new member, introduced in this way, will probably become a permanent one. The slip which is enclosed with this number should accompany your remittance.

## New York Meetings

Some of our members have suggested that the purposes of the association might be substantially advanced by having, during the year, several meetings of those who live in the neighborhood of New York or who happen to be visiting the city, and that, if these meetings prove to be successful and enjoyable, the same plan may be followed in other centers where we have a large number of members. These meetings are intended to be entirely unpretentious in every way. Those who attend are especially requested not to wear formal dress. Possibly a special topic for discussion will be announced in advance, and someone appointed to lead it, but the proceedings will be more in the nature of an impromptu social gathering than of a conventional business session. Light refreshments will be served, and a small assessment made to cover their cost. Members will be encouraged to bring with them relatives and friends, especially those who may be thus induced to join. This should furnish a splendid opportunity for the exchange of information and material, and for the identification of puzzling items. Mr. George S. McKearin, 80 Maiden Lane, New York City, has kindly agreed to take over the necessary clerical work involved in this project, and any member who wishes to receive notices of such meetings should communicate with him.

## The Salem Exhibit

On September 8th and 9th, the Chamber of Commerce of Salem, Mass., presented an exhibition portraying many of the industries practiced in this country during the 17th century. The exhibition was held at the Pioneer's Village, and in spite of extremely unfavorable weather, the attendance was most satisfactory, both as to numbers and as to the interest shown.

## The Antiques Show

The Fifth International Antiques Exposition was held at the Hotel Commodore, New York City, opening on October 22nd and closing on October 26th. Through the courtesy of the management, this association was furnished, without charge of any kind, with an excellently situated booth, on the walls of which were hung a miscellaneous assortment of early tools and utensils loaned by Messrs. Wiggins, Bolton and Sprague, which attracted much attention. The New York Tribune devoted nearly one-half of its account of the show to a description of our exhibit, and the other newspapers also gave it most favorable and generous notices. Messrs. Bolton, Byard, Connor, Gage, Harte, Ineson, Pennoyer and Sprague and Mrs. Hunter undertook, between them, that someone should be in attendance at the booth during all the open hours, and copies of The Chronicle were prominently displayed, with the gratifying result that seventy-one new names were added to our membership roll by this means alone, not to mention many others whose interest was plainly aroused, and who should be excellent "prospects" for Mr. Lownes' committee.

## The Rushlight Club

The last meeting of the club was held on October 13th, at the home of Mr. and Mrs. Samuel Temple, Lynnfield Center, Mass. Mr. Temple delivered a most instructive lecture on "fakes" and reproductions of early lamps, and gave the members the benefit of his extensive travels abroad, insofar as they had developed interesting information pertaining to ancient lighting devices. He visited thirteen different countries last summer, and found native "betty" lamps in each one. At the National Museum in Naples, Italy, he saw between four and five thousand ancient lamps from the excavations at Pompeii. In Germany, he found "betty" lamps similar to the old Pennsylvania type; in Norway and Sweden, they were much larger. In his quest for further data on the subject of ship lights, Mr. Temple visited the English Marine Museum, where the "Victory," Nelson's flag-ship was in dry dock. This ship was lighted with "lanthorns,"—lanterns fitted with a thin plate of horn, instead of a pane of glass.

## The Wool Comber

By William B. Sprague

(Author's Note: The capital letters interspersed through the text refer to the volumes listed at the end of the article, the numerals indicating the page numbers.)

Prior to about 1643, both flax and wool were scarce in New England, and at that time it is estimated that there were not more than about one thousand sheep in the Massachusetts colony; in these very early days, the settlers depended largely on cotton brought from the West Indies (A192-3). From that time on, however, the use of wool for textile purposes steadily increased, until the spinning wheel became an essential part of the industrial equipment of every home.

Wool - combing, as distinguished from domestic wool-carding, was a very ancient, specialized and skilled trade, although a "laborious and unhealthy occupation, being carried on in a hot room" (K1040). The first combing machine was invented in 1790 (H43) but probably not satisfactorily perfected until about 1852 (B288) or even later (C918). The function of the comb was to prepare wools of long staple, with fibres from three to ten inches long (G25) for spinning into worsted for hosiery (F370) "camlets, bombazines, circassians" (H43) "flannels, serges, stuffs, baize, kerseys, etc." (I6). Rivington says that the invention of the process is ascribed to Bishop Blaize, the patron saint of the trade, in whose memory a "splendid festival" was held by all the wool-combers in England on the third of every February, but thinks that "there is more of fable than reality in this honour to the bishop." (F370).

Preparatory to combing, a thorough cleansing of the fleece was necessary, which was often done in a large iron bowl, thirty-six or forty inches in diameter (B286). After this, one end was fastened to a fixed hook and the other to a movable hook, which was turned with a handle until all the moisture was drained out (F371, B285), after which it was thrown into a basket of unusual type, as shown in Rivington's picture, reproduced herewith. When dry, it was "thrown out very lightly into thin layers" and splashed with a few drops of oil, after which it was packed tightly in a bin, which was kept under the bench upon which the comber sat, another and larger bin being reserved for the *noyls*, which term will be later explained (F371).

The wool comb consisted of a T-shaped piece of hard wood, in the head or stock of which (represented by the crosspiece of the T) were mounted, nearly at right angles to it, two or more nearly parallel rows of foot-long, smooth, round, tapering, highly-tempered steel teeth, about twenty to a row, the rows being about one-third of an inch apart at their tips and slightly more at their bases, the rows varying in length by one or two inches, the row furthest from the handle (corresponding to the upright part of the T) being the longest. (D, E1315, F371).

The Wool Comber
from Rivington's *Trades* (F)

Another essential and curious accessory of this craftsman was the *comb-pot*, also shown in Rivington's picture, for heating the combs (J944). This was a clay jar, in which charcoal was burned (F371) with open slots in the sides, through which the teeth of the comb could be thrust, leaving the handle outside. It was about three to four inches thick, about two feet in diameter, thirty-six to forty inches in height, and had a hole in the top, for which there was a cover, either of iron or of the same clay of which the pot was made. The pot designed for burning coal, rather than charcoal, was somewhat similar, except that it had a grating instead of a solid bottom, and a stove-pipe to create a draft and carry off the gas and smoke (B287). Heating the combs "enabled them to render the fibres soft, flexible and elastic" (E1315). As early as 1820, a brick furnace was sometimes employed instead of the comb-pot (see ill. L) and apparently the early French comber used some kind of *wooden* receptacle for this purpose (see ill. M).

In further explanation of his picture, Rivington says, "In general, four Wool-combers work at the same pot, which is made large enough to admit of eight combs. There are, of course, four distinct benches and bins, of both kinds, in each shop. In almost every work-shop is an hour-glass, by which they measure the time; the care of this falls to the lot of a particular person. The small bottle underneath the comb is filled with oil, which is occasionally used. On the side of the wall are placed two ballads, of which, in general, there are several in the Woolcomber's shop" (F372).

Having heated a pair of combs, the workman hung upon the teeth a mass of wool, "in such a manner as to project over the front of the head" (D) having first, so far as possible, removed all knots and tangles (F371). He then combed the wool from one comb to the other, until it was smooth and entirely unravelled (D, F371). As Cutbush quaintly says: "If we consider the full comb as the human head disgraced by a quantity of neglected, long and dishevelled hair, which we reduce to its natural and elegant order, we shall have a very just idea of the operation" (D). Having thus arranged the fibres in orderly fashion, the comber was able to draw out the long fibres from the mass, into what he called a *sliver*, sometimes five or six feet long, leaving on the comb a mass of short and hopelessly knotted fibres, called a *noyl*, and fit only for the manufacture of blankets and coarse cloth (D, F371). Rivington says that, for drawing out the sliver, the combs were fixed on an iron spike placed in the wall, as illustrated, but this part of the process is much more adequately described by later writers, as will be seen hereafter.

(*To be continued in next issue*)

Painters and engravers used to make their sketching pencils from pieces of hazel, four or five inches long and about as thick as one's finger. These were put into a large pot full of sand, the top covered with clay, and the whole exposed to intense heat, such as that of a potter's kiln, as a result of which the sticks were converted into charcoal.

# Early American Industries Association

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Please check your name and address and advise Mr. Goodnow of any corrections. The total membership is now 405.

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## Museum Notes

### *The Chamberlain Memorial Museum*

By Lena VanGenderen

That section of the museum which has ingenuously been designated as the Pioneer Implement and Tool Room, might well be called a studio of industrial arts, or some other title indicative of the important part which it plays in the portrayal of pioneer life. Man's activities have always been the most interesting phase of his history, and nowhere is available a more accurate account of his daily life and the generalities in which Americans are always interested, than in a collection of the tools and equipment which he used to effect them. That each community was an entity, almost sufficient unto itself, is indicated by the number of articles which were made locally, not only in our community but in any and all settlements. There have been, in years past, many more artisans in our village than we now can boast. Almost, each man was his own artisan! It is a source of much speculation, among the youngsters and school classes of the community, that at one time the region supported not only carpenters and masons as we find today, but men who specialized in making barrels, and were called coopers, as well as individuals who made wagon- and other wheels, the wheelwrights. Blacksmiths were popular in every village and a complete set of tongs and other tools used by him, with a re-constructed forge, depict clearly how this work was done. Hames for the harness of horses or oxen were made by hand; tinsmiths cut their patterns by hand and employed a special set of tools to do so. The implements used by the pioneer farmers form a study no less fascinating. The ancient grain cradle forms an interesting exhibit, as does the antiquated threshing-machine and separator. Of especial interest is a peculiar old wooden hay-rake, presented by one of the pioneer families of the community. Almost every farmer had knowledge of a frow, and could make shingles. Gloves were at one time made by a local resident, and the wool and flax spinning wheels, reels, swifts and looms are illustrative of all the processes in the manufacture of homespun, one of the chief occupations of the pioneer women. Our museum was one of the first to be organized in this section of the country, and the cream of materials have therefore come to us in past years. Even today, however, residents are discovering unique and obsolete tools in dusty barns and lofts, which are brought to us for identification. Unless these articles are preserved now, and a study made of the art which they represent, the story will be completely lost, and even the rising generation will know nothing of the fascinating story which is the evolution of all things domestic.

## Tool Treasures

(*Continued from page 2, column 3*)

justable device for holding the bit. And on a face near the bit end is this faint inscription —

Jon. Ashley, Deerfield, 1735.

This treasure does not have to be pictured, for tools of this sort follow much the same design, but is it any wonder that I prize it as one of my chief possessions?

The shingle shave is a great broad piece nearly two feet long, thick and heavy, as befitted its purpose. It was found in the ruins of an old house of the 17th century in Hadley, and, when found, had handles of cow's horn, which have been renewed in the manner of the original. It is deeply pitted with rust, but retains its former sturdiness and strength. Nothing more of its story is known, but I have no hesitation in ascribing it to the last quarter of the 17th century.

# COMMUNICATIONS

*From* MR. GEORGE D. SEYMOUR:

"A few years ago I found, in the gloom of a far corner of the garret of a house in the country, a little pile of early American 'nail-head' coffins, made—as they should have been made—of butternut and whitewood stained the familiar old red, and quite elegant in line. These coffins, as the owner told me, were made by his father from eighty to one hundred years ago. Coffins in the old days were generally 'custom-made,' but this old cabinet maker seems to have 'stocked' a few. They are all small. Five of these fearsome souvenirs of mortality are now in my garret. As far as I am aware, I have the largest private collection of Early American Nail-Head Coffins in the world! Lying in front of my three old cradles, I say that they symbolize 'from the cradle to the grave.' Now I have just secured a long, four-handled, four-legged bier in fairly good condition, and, as far as I can ascertain, about eighty years old. The story is that it succeeded an earlier bier just about like it, and I believe there are some men in the village who say that more than once they carried it up and down the aisle of the church. I remember seeing just such biers in the tower-rooms of English parish churches, but I never happened to see one here in New England. They preceded, of course, the town hearse. I also remember very well getting a great "kick" out of furtively peering, when a small boy, into a barn-like shed in which the town hearse—a fearful object—was housed. I am writing you to ask if any of your readers have biers in their collections, or can furnish any facts and stories about them. Are there any communities in which they are used today?" [The statement that coffins were usually "custom-made" reminds one of the Cape Cod story of the bibulous boat-builder, who was also the local coffin-maker, and who, on one occasion, when he received a rush order for a coffin, absent-mindedly put a center-board in it.—ED.]

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*From* MR. S. EDSON GAGE:

"At Scott's Corner, between Pound Ridge, N. Y., and New Canaan, Conn., a basket-making industry, founded in 1841, is still carried on by a descendant of the founder. Native oak, ash, and hickory logs are halved, quartered and half-quartered, and made into splints with a draw-knife on a bench similar to a shingle-horse. Many forms of baskets are made and sold, notably oyster baskets for New Haven."

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Miss Edna M. Netter advises that The *Gentleman's Magazine*, published by Sylvanus Urban, London, and printed by D. Henry, St. John's Gate, during the 18th century, contains much material which would be of interest to our members. She states that this periodical was quite popular in this country, and was extensively copied from by American magazines. There is a complete file of it at the Rutgers University Library, New Brunswick, N. J. and we hope that in due course, Miss Netter, or some other New Jersey member, will find it possible to send us interesting excerpts from it.

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Mr. H. M. Darby inquires when the village smith's anvil was first made with a square hole for the hardy. He has an anvil, and knows of three others, that lack this hole. They are all hand-made, ranging in weight from about 50 to 125 pounds.

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*The Journal of Industry and Finance*, of Newark, N. J., wants to know the date and location of the first establishment in this country for smelting and refining gold and silver.

# "POINTS" OF INTEREST

In an account of Georgia of 1734 it is related that the settlers made candles from the berries of the wax- or candle-berry myrtle (Myrica cerifera). The berries were cooked and a green wax rose to the surface, from which candles were made. Two bushels yielded about 25 pounds of wax.

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The houses of Savannah, Georgia, had, in 1734, instead of window glass, only paper, linen or the bare frames.

When potatoes were first introduced into England, about the end of the 16th century, they were roasted in the embers, and eaten with sack and sugar, or baked with marrow, sugar and spices, or candied by the confectioners.

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Glass lanterns were mentioned in the writings of Isidore of Seville who was born ca. 560 and died in 636 A.D. They consisted of frames of bronze with panes of glass.

For disseminating of news, there appeared in Venice a written weekly in 1536 A.D. with the title "Notizie Scritte". One had to pay a "gazetta", a small coin, to read it, hence our name Gazette for a newspaper.

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Arthur Train, in an article in the *Saturday Evening Post*, May, 1929, stated that the first bathtub was built in America in 1842,— mahogany, lined with sheet lead.

# ADVERTISEMENTS